

GEYKHMAN, D.S. [deceased]; ROMANKEVICH, V.N.; SIDYAKIN, V.G.

Electric properties of polycrystalline selenium with halogen impurities ( $\text{Br}_2$ ,  $\text{Cl}_2\text{I}_2$ ). Fiz. tver. tela 1 no.2:218-226 F '59.  
(MIRA 12:5)

1. Kiyevskiy politekhnicheskiy institut.  
(Selenium--Electric properties)

ROMANKOVICH, V.N.; SIDYAKIN, V.G.

Inconstancy of the electrical parameters of selenium samples containing bromine in relation to the duration of their storage. Izv.vys.ucheb.zav.; fiz. no.3:180-184 '60. (MIRA 13:7)

1. Kiyevskiy politekhnicheskiy institut.  
(Selenium--Electric properties)

ROMANKEVICH, V.N.; SIDYAKIN, V.G.

Electric properties of amorphous selenium with an iodine impurity.  
Izv.vys.ucheb.zav.; fiz. no.6:25-32 '59. (MIRA 12:4)

1. Kiyevskiy politekhnicheskiy institut.  
(Selenium--Electric properties)

SOV/139-58-6-4/29

AUTHORS: Romankevich, V.N. and Sidiyakin, N.G.

TITLE: Electrical Properties of Amorphous Selenium with Iodine Impurity (Elektricheskiye svoystva amorfного selena s primes'yu ioda)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, 1958, Nr 6, pp 25-32 (USSR)

ABSTRACT: The paper reports studies of the electrical conductivity, its temperature and frequency dependences and the thermoelectric power of amorphous selenium with various amounts of iodine. Pure amorphous selenium powder from the Shchelkov factory was used to prepare the samples. The samples were prepared by applying a pressure of 30000 atm. This pressure was used in order to obtain material whose density is equal to the density of amorphous selenium produced by melting ( $4.2 \text{ g/cm}^3$ ). Iodine was introduced in the form of powder which was purified by several sublimations in vacuo. Each sample was in the form of a plate  $2.1 \times 1.1 \text{ cm}$  in area and  $0.15 - 0.2 \text{ cm}$  thickness. Aquadag electrodes were used. In addition to the series of samples prepared from powder, the authors also produced samples of pure

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SOV/139-58-6-4/29

Electrical Properties of Amorphous Selenium with Iodine Impurity  
amorphous selenium and amorphous selenium with iodine by melting in evacuated ampoules. The electrical conductivity of  $\sigma$  of selenium without iodine was measured using a d.c. amplifier. The value of  $\sigma$  of samples with iodine was found, employing the usual potentiometric method. The temperature dependence of  $\sigma$  was measured between 20 and 100°C. The frequency dependence of the electrical resistance at  $10^4 - 10^5$  c/s was obtained, using the apparatus shown schematically in Fig 2. This apparatus included a high-frequency oscillator coupled by  $L_C$  to a circuit which included a valve (tube) voltmeter (KV); resistance of the samples was deduced from their losses in a capacitor C. The thermoelectric power of pure amorphous selenium was measured using the apparatus shown in Fig 3; this apparatus included a potentiometer and a ballistic galvanometer G<sub>3</sub>. The thermoelectric power of amorphous selenium with iodine was measured in the usual way. The electrical conductivity of pure selenium and selenium with: 0.5, 1, 3 and 5% of iodine at 20°C is given

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SOV/139-58-6-4/29

Electrical Properties of Amorphous Selenium with Iodine Impurity

in Table 2. The electrical conductivity of pure amorphous selenium was of the order of  $10^{-12} \text{ ohm}^{-1} \text{ cm}^{-1}$  at  $20^\circ\text{C}$  and rose rapidly on introduction of iodine, reaching  $\sim 10^{-6} \text{ ohm}^{-1} \text{ cm}^{-1}$  when 5% of iodine was added. Table 4 shows that the frequency of measurement affects strongly the value of the resistance of the pure amorphous selenium and amorphous selenium with iodine. The resistance of both pressed and melted samples decreases strongly with frequency. The temperature dependence of the electrical conductivity of amorphous selenium with iodine is given in Table 5. It is found that the conductivity of selenium with iodine increases fairly rapidly with temperature, in contrast to the conductivity of crystalline hexagonal selenium, which rises only slightly on heating. It is difficult to draw final conclusions from the temperature dependence of the electrical conductivity since crystallisation of selenium occurs during the process of measurement. The room temperature electrical conductivity was found to be 10 to 100 times higher after a series of measurements of the temperature dependence of the electrical

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SOV/139-58-6-4/29

**Electrical Properties of Amorphous Selenium with Iodine Impurity**

conductivity. Comparison of the electrical conductivity of selenium samples prepared by pressing and those prepared by melting in evacuated sealed ampoules showed that their initial properties were of the same order. The thermoelectric power  $\alpha$  was also measured; for pure amorphous selenium it was equal to 1.1 mV/deg. The temperature dependence of the thermoelectric power  $\alpha$  was obtained for samples of amorphous selenium with iodine. The sign of the thermoelectric power indicated that pure selenium and selenium with iodine have hole conductivity. The results of measurement of the thermoelectric power at various temperatures are given in Table 6 (in mV/deg) which includes also the values of the carrier density  $n$  (in  $\text{cm}^{-3}$ ). Table 6 shows that the values of  $\alpha$  are 1.5 to 2 times higher in amorphous selenium with iodine than in crystalline selenium with similar amounts of iodine at the same temperature. Table 6 shows also that the value of  $\alpha$  decreases and that of  $n$  increases with temperature. This contradicts the results obtained by

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SOV/139-58-6-4/29

Electrical Properties of Amorphous Selenium with Iodine Impurity

other authors. When measurements of thermoelectric power were repeated at room temperature after tests at higher temperatures, the initial value of  $\alpha$  was never obtained. The following conclusions are drawn by the authors: (a) amorphous selenium is a semiconductor and its properties are retained when it crystallises because the properties of crystalline selenium are governed by its short-range order; (b) if it is assumed that, in general, the properties of crystalline and amorphous selenium are similar, then the laminar structure of selenium is confirmed by the observed frequency dependence of its electrical resistance, weak binding of the halogen impurity with the selenium lattice and considerable decrease of resistance of selenium on the addition of iodine. There are 3 figures, 6 tables and 10 references of which 7 are Soviet, 2 are translations

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SOV/139-58-6-4/29

Electrical Properties of Amorphous Selenium with Iodine Impurity  
from English into Russian and 1 Dutch.

ASSOCIATION: Kiyevskiy Politekhnicheskiy Institut (Kiyev  
Polytechnical Institute)

SUBMITTED: 29th March 1958

Card 6/6

ROMANKEVICH, V. M.

35534. Perevyazka Verkhney Poloy Veny. (Opty Ma Sobakakh). V SD: Voprosy  
Grudnoy Khirurgii. T. 111, M., 1949, c. 46-51.

Letopis' Zhurnal'nykh Statey, Vol. 48, Moskva, 1949

Romankevich, Ye. A.

20-3-27/46

AUTHOR:

Romankevich, Ye. A.

TITLE:

Organic Matter in Bottom Sediment Columns From the North-West Part of the Pacific (East of Kamchatka) (Organicheskoye veshchestvo v kolonkakh donnykh otlozheniy severo-zapadnoy chasti Tikhogo okeana (k vostoku ot Kamchatki)).

PERIODICAL:

Doklady AN SSSR, 1957, Vol. 116, Nr 3, pp. 447-450 (USSR)

ABSTRACT:

The clarification of the quantitative distribution of organic carbon ( $C_{org}$ ) of the humic and bitumen substances, as well as of the vegetal pigments in the bulk of oceanic deposits is of importance for the detection of diagenesis processes, the conversion of the organic substance and the redistribution of individual components of this substance in the deposits. The author investigated 29 columns of these depositions, 2 to 12 m of length, taken from the expeditionary vessel "Vityaz", from the district near Kamchatka, the Komandoren- and Aleutian islands. These specimen come from the continental slope, the deep-sea depressions and the bottom of the ocean from a depth of 3 to 7,5 km. The luminescence method was applied for this investigation. The sediments are formed of carbonateless (0 to 2%  $CaCO_3$ ) loamy and aleurit-loamy muds. Their top horizons contain a increased quantity of  $SiO_2$  and are loamy or poor flinty diatomaceous muds. The moisture content decreases

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Organic Matter in Bottom Sediment Column From the North-West Part 20-3-27/46  
of the Pacific (East of Kamchatka)

slowly from 0,2 to 0,5 m on the bottom-surface, in greater depths it increases and attains, or exceeds the content on the surface at various depths. The quantitative distribution of the organic substance was very similar with all samples. The content of bituminous matters is very poor up from 0,8 to 1,3 m and is about the same everywhere. The quantity of both the bitumen and the humic acids increases with the depth of the water. The orientation of the conversion processes of bitumen was disclosed by a luminescence-analysis: Both the oil- and resin-content of bitumen increased with the depth of the water, whereas the asphaltene content decreased. The content of green pigments decreases with the depth. Since with all samples the horizon containing a maximum of  $C_{org}$ , is also enriched with chlorophyll and  $SiO_2aut$ , it can be concluded that the diatomous algae were the main supplier of the organic substance for the depositions. A sediment-layer enriched with bitumen was discovered by means of the luminescence analysis. Further examinations have shown that this layer also contains increased quantities of humic substances, pigments and  $C_{org}$ . This horizon can serve as marking with the stratigraphical arrangement of the sediments. There are 2 figures, 1 table, and 3 Slavic references.

Card 2/3

Organic Matter in Bottom Sediment Column From the North-West Part 20-3-27/46  
of the Pacific (East of Kamchatka)

ASSOCIATION: Institute of Oceanology of AN USSR (Institut okeanologii Akademii nauk SSSR)

PRESENTED: June 14, 1957, by S. I. Mironov, Academician

SUBMITTED: June 6, 1957

AVAILABLE: Library of Congress

Card 3/3

*ROMANKEVICH, Ye. A.: Master Geolog-Mineralo Sci (diss) -- "Organic substances  
in the benthic deposits of the northwestern part of the Pacific Ocean east of  
Kamchatka". Moscow, 1958. 22 pp (Inst of Oceanology Acad Sci USSR), 120 copies  
(KL, No 4, 1959, 123)*

3(9)

AUTHOR:

Romankevich, Ye. A.

SOV/20-124-6-34/55

TITLE:

The Composition and Distribution of Vegetable Pigments in the Sediments of the Northwestern Part of the Pacific, East of Kamchatka (O sostave i raspredelenii rastitel'nykh pigmentov v letoshecheniyakh severo-zapadnoy chasti Tikhogo okeana k vostoku ot Kamchatki)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 6 pp 1305-1308  
(USSR)

ABSTRACT:

The organic pigments embedded in bottom sediments are presently considered as porphyrine sources of oil. A great significance is attributed to the porphyrines as indicators of the source material and the temperature conditions of bitumen genesis in rocks and oil (Refs 1-3). Moreover, the chlorophyll-like products in the sediment are indicative of the quantity of easily assimilable nourishment (inclusive of vitamins A and B) for the bottom-dwelling fauna. The author has studied the problem since 1955 (expedition ship "Vityaz"). This study was continued in the laboratories of the Kafedra geologii i geokhimii gornykh iskopayemykh, Moskovskiy gosudarstvennyy

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The Composition and Distribution of Vegetable Pigments SOV/20-124-6-34/55  
in the Sediments of the Northwestern Part of the Pacific, East of Kamchatka

universitet (Chair of Geology and Geochemistry of the Fossil Fuels of Moscow State University) and the Vsesoyuznyy nauchno-issledovatel'skiy geologo-razvedochnyy neftyanoy institut (All-Union Petroleum Scientific Research Institute for Geological Survey). The pigments were extracted from sediments of natural moisture content with acetone and alcohol acetone. The amounts of chlorophyll and phaeophytin were determined on a universal photometer without separation. The qualitative content of the pigments and the carotene content were ascertained by chromatography on paper. A total of 66 quantitative determinations of chlorophyll and carotene were carried out. The following were determined in the uppermost sediment layer: a- and d- chlorophyll, phaeophytin (apparently a), carotene, lutein, fucoxanthin. All of these pigments (with the exception of phaeophytin) are characteristic representatives of the pigment system of living diatoms. By this the prominent role of the diatoms in the formation of organic substances of the bottom sediments in this region is proved. Unaltered chlorophyll occurs in the depths from 130 to 700 m in very subordinate amounts compared with phaeophytin (product of the first oxidation stage).

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The Composition and Distribution of Vegetable Pigments SOV/20-124-6-34/55  
in the Sediments of the Northwestern Part of the Pacific, East of Kamchatka

Therefore, the organic substance was oxidized during the sinking of the particles as well as in the sediment itself. From the map (Fig 1) it is apparent that the highest pigment concentrations are to be found in fine grained muds on the continental slope relatively near the coast (500-4200 m deep). Even in the region of the continental shelf (30-200 m deep) the pigment content is relatively high. The phaeophytin and carotene content sinks to minimum values in the deep sea basins (6760-7500 m) and the ocean bays (depths of 4600-5600m). This may be attributed to the impoverishment of plankton in these areas, which is viewed as the chief source of the pigments. Also, at the transition from fine sand to "aleurolith" and clayey mud, here parallel to the increasing depths, phaeophytin and carotene form an increasingly small percentage of the organic substance. The pigments are destroyed during the sinking of the particles. Stabler humin and remnant organic materials accumulate on the bottom (Ref 9). Table 1 shows the phaeophytin content in the basal parts of the cores. The medium of the sediment has a decisive effect on the preservation of the pigments.

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The Composition and Distribution of Vegetable Pigments SOV/20-124-6-34/55  
in the Sediments of the Northwestern Part of the Pacific, East of Kamchatka

If oxidation conditions prevail during the sedimentation of 1.5 - 2 m of sediment, only small amounts of phaeophytin can be transformed into the fossil state, compared with its original content in the uppermost sediment layer. There are 1 figure, 1 table, and 10 references, 6 of which are Soviet.

ASSOCIATION: Institut okeanologii Akademii nauk SSSR  
(Institute of Oceanography of the Academy of Sciences, USSR)

PRESENTED: November 4, 1958, by S. I. Mironov, Academician

SUBMITTED: November 4, 1958

Card 4/4

ACC NR: AR7004108 (N) SOURCE CODE: UR/0169/66/000/012/V029/V030

AUTHOR: Romankevich, Ye. A.

TITLE: Distribution and structure of organic matter in the surface layer and thickness of sediments in Pacific Ocean area

SOURCE: Ref. zh. Geofizika, Abs. 12V175

REF SOURCE: Sb. 2-y Mezhdunar. okeanogr. kongress, 1966. Tezisy dokl. M., Nauka, 1966, 329-330

TOPIC TAGS: oceanography, hydrolysis, organic substance, precipitation, bituminizing substance, humic acid

ABSTRACT: On the basis of more than 2000 determinations of organic substances, an oceanographic chart was prepared showing the distribution of these substances in the surface layer of certain sediments in the Pacific Ocean area. The nature of changes in the quantity of organic substances in the sediment is also explained. The compositional variability of organic substances (such as readily hydrolyzed and bituminized substances as well as humic acids) was investigated in relationship to their remoteness from the dry land in Central Pacific Ocean area. [KP]

SUB CODE: 08/  
Card 1/1

/Translation of abstract/  
UDC: 551.464.7:551.35(265/266)

ROMANKEVICH, Ye.A.

Quaternary deep-sea deposits in the northwestern part of  
the Pacific Ocean and their significance for paleogeography.  
Izv. AN SSSR. Ser. geog. no.6:35-49 N-D '63.

(MIRA 17:1)

1. Institut okeanologii AN SSSR.

ROMANKEVICH, Ye.A.; PETROV, N.V.

Oxidation-reduction potential and the pH of sediments in the north-eastern part of the Pacific Ocean. Trudy Inst.okean. 45:72-85  
'61. (MIRA 15:2)

(Pacific Ocean--Sediments (Geology)) (Oxidation-reduction reaction)  
(Hydrogen-ion concentration)

*Romankevich, Ye. A.*

Papers submitted for the 10th Pacific Science Congress, Honolulu, Hawaii, 21 Aug-  
6 Sep 1961.

- MATZINA, N. S., Institute of Geology - "Hemispheric depressions and trough  
of east Atlantic type and their position in the symmetrical or tectonic  
forms" (Section VII.C.)
- MILERO, J. A., Marquette State University, Physical Faculty - "The geochemistry  
of specific elements of artificial radionuclides in upper layers  
of the oceans" (Section VII.A.6)
- MISNER, T. G., Chair of Forestry, The Agricultural Academy, Leningrad K. A.  
Tchelishev - "Forest fire research and methods of fire control" (Section V.B.)
- NAKAMURA, A., Institute of Oceanology - "Biogeographical and  
oceanographical studies of reproduction and development of marine  
molluscs in the northeast Pacific" (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology - "Investigation of the horizontal  
currents in the eastern part of the Pacific Ocean" (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology - "Geographic  
currents in the eastern part of the Pacific Ocean" (Section VII.C.)
- NIKONOV, V. A., Institute of Earth Physics under O. Yu. Schmidt -  
"The seismic geological conditions in the northwestern enltying area  
of the Pacific basin" (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology  
and northern part of the Pacific  
Basin - "A feature of the Pacific land  
surface from the seismological point of view" (Section VII.B.4)
- NIKONOV, V. A., Institute of Oceanology - "Geographic features  
of the seismics of the north part of the Pacific basin" (Section VII.C.)
- NIKONOV, V. A., Moscow State University, Physical Faculty - "A new deep-sea  
device for measuring currents (NUBU)" (Section VII.B.)
- NIKONOV, V. A., Institute of Geology  
and Development of mineral resources  
of continental elements in the frame of the Pacific Ocean  
development" (Section VII.C.)
- NIKONOV, V. A., and GORODINSKIY, I. N., Institute of  
Geological and Mineralogical Research in the Pacific
- (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology - "Proteins substances in  
bottom sediments in the western part of the Pacific" (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology - "Problems concerned with the  
relation between deep focus earthquakes" (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology - "Geophysical Faculty - "The  
structure of the ocean floor" (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology - "Geophysical Faculty, Chair of Tech-  
nical Oceanography, Moscow State University" (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology - "The distribution of bottom  
currents - An experimental method for studying circulation" (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology - "The distribution of bottom  
currents in the northern part of the Pacific and its use for  
the predictions of the meteorology" (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology - "Problems concerned with the  
changes of amplitude of seismic waves in sea and ocean" (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology - "Geophysical section of the  
Pacific Ocean" (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology - "Geophysical section of the  
Pacific Ocean" (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology - "Geophysical section of the  
Pacific Ocean" (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology - "Geophysical section of the  
Pacific Ocean" (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology - "Geophysical section of the  
Pacific Ocean" (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology - "Geophysical section of the  
Pacific Ocean" (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology - "Methods for measuring deep  
currents in the Pacific Ocean" (Section VII.C.)
- NIKONOV, V. A., Institute of Oceanology - "Methods for measuring deep  
currents in the ocean and some results of their application in the  
Pacific Ocean" (Section VII.C.)

ROMANKEVICH, Ye.A.

Organic matter in the sediments of Kronotskiy Gulf. Trudy Inst.-  
ocean. 36:32-39 '59. (MIRA 15:4)  
(Kronotskiy Gulf--Organic matter)

S/021/62/000/012/017/018  
D205/D307

AUTHORS: Synyav's'kyy, V.G., Turbina, A.I. and Romankevych, N.Ya.

TITLE: The synthesis of p-aminostyrene

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 12, 1962, 1622-1623

TEXT: p-Nitrophenyl chloromethyl carbinol,  $p\text{-NO}_2\text{-C}_6\text{H}_4\text{-CH}_2\text{Cl}$ , was cyclized in high yield to  $p\text{-NO}_2\text{-C}_6\text{H}_4\text{-CH(OH)-CH}_2$  with aqueous alkali at 40-50°C, and the oxide was then reduced to  $p\text{-NH}_2\text{-C}_6\text{H}_4\text{-CH}_2\text{OH}$  with (a) Zn dust in aqueous  $\text{CaCl}_2$  and (b)  $\text{H}_2$ , using Raney nickel or platinized carbon, in benzene, at 50-60°C and under a pressure of 100-150 atm. p-Aminophenyl ethyl alcohol was then dehydrated to p-aminostyrene, in high yield, by heating with solid KOH, in a stainless steel reactor, under  $\text{N}_2$  or reduced pressure (8-10 mm Hg).

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S/021/62/000/012/017/018  
D205/D307

The synthesis of ...

ASSOCIATION: Institut khimii polimeriv ta monomeriv AN URSR  
(Institute of Chemistry of Polymers and Monomers of  
the AS UkrSSR)

PRESENTED: by A.I. Kiprianov, Academician

SUBMITTED: March 5, 1962

Card 2/2

ERDNIYEV, Pyurvya Muchkayevich; VILEN'KIN, N.Ya., prof., retsenzent;  
NAZAREVSKIY, G.A., uchitel', retsenzent; ROMAKIN, M.I., uchitel'.  
retsenzent; OBUKHOVSKAYA, Ye.N., uchitel', retsenzent; MOLCHANOV,  
M.P., red.; KREYS, I.G., tekhn.red.

[Comparison and generalization in the teaching of mathematics;  
manual for teachers] Sravnenie i obobshchenie pri obuchenii  
matematike; posobie dlja uchitelei. Moskva, Gos.uchebno-pedagog.  
izd-vo, 1960. 149 p. (MIRA 13:12)  
(Mathematics--Study and teaching)

~~ROMANKIN, V.~~, komandir podrazdeleniya; ~~DIDENKO, G.~~, komandir samoleta An-2;  
~~KATISOV, A.~~, pilot

Is a second pilot for an An-2 airplane needed? Grazhd. av. 21  
no. 10-21 0 '64. (MIRA 18:3)

KUSHTAN, V.I.; LOMSADZE, Yu.M., dotsent; ROMANKO, G.D.

Principle of invariance claimed relative to the inversion of  
each constant in the theory, and its consequences. Dokl. i  
soob. UzhGU. Ser. fiz.-mat. i ist. nauk no.5:20-24 '62.  
(MIRA 17:9)

SHUBA, I.M.; ROMANKO, G.D.; LOMSADZE, Yu.M., dotsent; KUSHTAN, V.I.

On the  $\mu^- + p \rightarrow e + p$  process. Dokl. i soob. UzhGU.  
Ser. fiz.-mat. i ist. nauk no.5:24-26 '62. (MIRA 17:9)

LOMSADZE, Yu.M. [Lomsadze, Iu.M.]; KRIVSKIY, I.Yu. [Kryvs'kyi, I.Iu.];  
ROMANKO, G.D. [Romanko, H.D.]

Possibility of specific interaction between  $\ell$ -states in the quantum  
field theory of the probability amplitude. Ukr. fiz. zhur. 8  
no.12:1311-1312 D '63. (MIRA 17:4)

1. Uzhgorodskiy gosudarstvennyy universitet.

ACCESSION NR: AP4010405

S/0185/63/008/012/1303/1312

AUTHOR: Lomsadze, Yu. M.; Krye've'kyay, I. Yu.; Romanko, G. D.

TITLE: On the possibility of a specific interaction between the E-states in the quantized probability amplitude field theory.

SOURCE: Ukrayins'kyay fiz. zhurnal, v. 8, no. 12, 1963, 1303-1312

TOPIC TAGS: quantized field, probability amplitude, quantum mechanics, quantum theory, quantum, E-state, G-state, S-matrix, S-operator, wave function, interaction Hamiltonian, Hamiltonian

ABSTRACT: This article is a continuation of work by the authors in developing the quantized amplitude probability field theory. It is shown that two types of interaction Hamiltonians exist in the framework of that theory. Those of the first type, corresponding to absence of interaction among the E-states entering into G-states, with any arbitrary degree  $I = 1, 2, 3, \dots$  of the internal chaotic state, for characteristics of processes usually observed experimentally, lead to the same results as conventional quantized field theory and therefore cannot determine the value of the universal constant  $I$  realized in nature. Those of the second type, which have no analogy in quantized field theory and which correspond to the

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ACCESSION NR: AP4010405

occurrence of a specific interaction among the E-states belonging to one G-state, in addition to interaction of the first type, lead to physical effects which depend on the degree I of the internal chaotic state of the particles; that degree can in principle be experimentally determined. Since the effects are small, they can be observed only after a substantial increase in experimental precision. It probably will be easiest to detect them in processes of particle decay. The authors are cordially grateful to Professor V. L. Bonch-Bruyevich for valued stimulating remarks and also to Ye. V. Kyrychuk and Sh. Sh. Kazinets' for aid in making certain calculations. Orig. art. has: 21 formulas.

ASSOCIATION: Uzhgorodskyi derzhuniversitet (Uzhgorod State University)

SUBMITTED: 03May63

DATE ACQ: 20Jan64

ENCL: 00

SUB CODE: NS

NO REF Sov: 008

OTHER: 003

Card 2/2

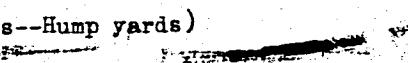
"APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001445220003-0

1. K. I.

2. Semiautomatic brake-shoe mechanisms. Izobr. v SSSR 2 iz. 2:20-21  
(K104 10:6)

Aug '57.

(Railroads--Hump yards) 

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001445220003-0"

"APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001445220003-0

ROMANKO, K.I. (Khar'kov)

Semiautomatic shoe brake retarders. Zhel.dor.transp. 39 no.8:72-73  
(MLRA 10:9)  
Ag '57.

(Railroads--Brakes)

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001445220003-0"

VANIN, D.Ye., ispolnyayushchiy obyazannosti dotsenta; ROMANKO, M.D.

Rotation of crops in Kalinovka. Zemledelie 24 no.8:29-32 Ag '62.  
(MIRA 15:9)

1. Kurskiy sel'skokhozyaystvennyy institut (for Vanin). 2. Glavnyy  
agronom kolkhoza sela Kalinovki (for Romanko).

(Rotation of crops)

GRACHEV, V.V., Geroy Sotsialisticheskogo Truda; ROMANKO, M.D.

On the Kalinovka Village Collective Farm. Zashch. rast. ot  
vred. i bol. 7 no.1:4-7 '62. (MIRA 15:6)

1. Predsedatel' kolkhoza sela Kalinovki Khomutovka (for Grachev).
2. Glavnnyy agronom kolkhoza sela kalinovki, Khomutovka (for Romanko).

(Khomutovka District--Plants, Protection of)

ROMAN'KO, M.Ye.; ASIPOVICH, A.N., inzh.

Use of tracklaying cranes for current repair work. Put'i put.khoz.  
(MIRA 16:9)  
7 no.8:26 '63.

1. Nachal'nik putevoy mashinnoy stantsii No.22, stantsiya Kalachinskaya, Zapadno-Sibirskoy dorogi (for Roman'ko). 2. Stantsiya Kalachinskaya, Zapadno-Sibirskoy dorogi (for Asipovich).  
(Railroads—Tracklaying machinery)

ROMANOV, M. I.

In sloboda chayoperatsii. Zashch. rast. et vred. i bol. 7 no. 187  
(MIRA 1986)

o. Ray-slyushchaya Kalinovskim nablyudatel'nym punktom kolkhoza  
sela Klimovka, Kholmovka.

(Kholmovka District -Plants, Protection of)

ROMAN'KO, N.I., inzh.

Calculations for shaft spillways. Gidr.stroi. 33 no.4:44-46  
(MIRA 16:4)  
Ap '63.  
(Spillways)

ZHAVRONKO, N.M.; ROMANKO, P.G.

Basic trends of the scientific studies in the field of mass transfer processes of chemical technology. Khim. prom. 41 no.2:1-4 F '65. (MIRA 18:4)

ROMANKO, T.A.  
ANDRIANOVA, I.G.; ROMANKO, T.A.

Further experimental and clinical studies of the effects of the preparation farcoven [with summary in English, p.61-62]. Probl. gemat. i perel. krovi 3 no.1:21-24 Ja-F '58. (MIRA 11:3)

1. Iz laboratorii sukhikh preparatov krovi (zav. - prof. L.G. Bogomolova) i hematologicheskoy kliniki (zav. - prof. S.I. Sherman) Leningradskogo ordena Trudovogo Krasnogo Znemena nauchno-issledovatel'skogo instituta perelivaniya krovi (dir. - dotsent A.D.Belyakov, nauchnyy rukovoditel' chlen-korrespondent AMN SSSR prof. A.N.Filatov) (IRON, therapeutic use, saccharate, anemia (Rus)) (ANEMIA, therapy, iron saccharate (Rus))

*Romanko T.A.*  
EXCERPTA MEDICA Sec.6 Vol.12/1 Inter.Med. Jan 1958

353. PARENTERAL TREATMENT OF HYPERCHROMIC ANAEMIAS WITH  
FERCOVEN. (PRELIMINARY REPORT). (Russian text) - Romanko T. A.  
KLIN. MED. (Mosk.) 1957, 35/1 (5"-63)

Fercoven, an Fe compound containing saccharose and cobalt gluconate, was administered during 17 days to 34 patients suffering from various hypochromic anaemias (posthaemorrhagic anaemia, Fe deficiency anaemia). A total of (on an average) 1700 mg. Fe was given per patient. A reticulocyte response and an increase of the blood values was obtained in all patients; 12 transient side reactions were encountered.

Siurala - Helsinki

ROMANKO, Oksana Ivanovna, ptichnitsa; ZOSICH, L., red.; LUCHKIV, M.,  
tekhn. red.

[More poultry] Bii'she ptytsi. Uzhgorod, Zakarpats'ka oblast',  
knyzhkovo-gazetnoe vyd-vo, 1961. 16 p. (MIRA 15:3)

1. Kolkhoz imeni Frunze, Uzhgorodskogo rayona (for Romanko).  
(Ukraine—Poultry)

ROMANKO, T.A.,(Leningrad)

Parenteral infusion of ferkoven in the treatment of hypochromic anemia of varied etiology; first report. Klin. med. 35 no.1:57-63 Ja '57 (MIRA 10:4)

1. Iz hematologicheskoy kliniki (zav.-prof. S.I. Sherman) i laboratorii sukhikh preparatov (zav.-doktor meditsinskikh nauk L. G. Bogomolova) Leningradskogo nauchno-issledovatel'skogo instituta perelivaniya krovi (dir.-dotsent A.D. Belyakov, nauchnyy rukovoditel'-chlen-korrespondent AMN SSSR prof. A.N. Filarov)

(ANEMIA, HYPOCHROMIC, ther.)

gluconic acid cobalt & sucrose iron prep.)

(GLUCONATES, ther. use

gluconic acid cobalt & sucrose iron prep. in  
hypochromic anemia)

(COBALT, ther. use

same)

(SUCROSE, ther. use

sucrose iron & gluconic acid cobalt prep. in  
hypochromic anemia)

(IRON, ther. use

same)

ROMAN'KO, V.A., provizor

Planning pharmacies operating on a basis of economic accountability.  
Apt.delo 6 no.6:47 N-D '57. (MIRA 10:12)

Upravlyayushchiy aptekoy Novoprazhskogo rayona Kirovogradskoy  
oblasti.  
(DRUGSTORES)

ROMANKO, V.K.

Boundary value problems for operators in two independent variables  
with inhomogeneous principal part. Dokl. AN SSSR 159 no. 2:269-  
272 N '64. (MIRA 17:12)

1. Matematicheskiy institut im. V.A. Steklova AN SSSR. Predstavleno  
akademikom L.S. Pontryaginym.

LEVEN, E.Ya.; ROMAN'KO, Ye.F.

Paleogene deposits in the Pamirs. Dokl. AN SSSR 134 no.3:647-649  
S '60. (MIRA 13:9)

1. Upravleniye geologii i okhrany nedr pri Sovete Ministrov TadzhSSR.  
Predstavлено акад. D.V. Malivkinym.  
(Pamirs--Geology, Stratigraphic)

3(5)

AUTHORS:

Barkhatov, B. P., Miklukho-Maklay, A. D., SOV/20-125-6-37/61  
Roman'ko, Ye. E., Tairov, E. Z.

TITLE:

New Data Concerning Permian Deposits of the North Pamirs (Novyye  
dannyye o permeskikh otlozheniyakh Severnogo Pamira)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 6, pp 1303-1306  
(USSR)

ABSTRACT:

Permian deposits characterized by their fauna predominate in the northern and south-eastern structural-facial zone of Pamir (Ref 1). The stratigraphy of the Permian deposits in the south-east of Pamir could be precisely defined in the last years by investigations of the Upravleniye geologii i okhrany nedr pri Sovete Ministrov SSSR (Administration of Geology and Protection of Mineral Resources of the Council of Ministers of the USSR) as well as of Leningradskiy universitet (Leningrad University). New Permian exposures were found in addition. The separation of the individual zones is indicated (Refs 1,4,5) (see Scheme in Fig 1). On the strength of a tectonic and paleontological analysis the authors draw the conclusion that the stratigraphic position of the so-called "violet" suite (earlier ascribed to the central part of the Lower Permian by M. I. Shabalkin) has

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New Data Concerning Permian Deposits of Northern Pamir SOV/20-125-6-37/61

to be revised. The "violet" suite, which contains Upper Permian fauna in the conglomerate, is obviously bound to have a stratigraphically higher position; it is, however, as well possible that these deposits belong to the Mesozoic (Jurassic, and even Cretaceous). The detection of Lower Permian fauna in the rocks of the northern metamorphic zone of Pamir indicates the uniformity in the geological development of the entire northern zone during the Paleozoic and Mesozoic or at least up to the Upper Permian. The southern boundary of maximum downwarps in the Upper Paleozoic is distinctly marked; it is in accordance with the southern boundary of the Darvaz-Sarykol lower zone. Thus, the development of the northern branch of the Pamir geosyncline in the Upper Paleozoic was better determined. There are 1 figure and 5 Soviet references.

ASSOCIATION:

Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova  
(Leningrad State University imeni A. A. Zhdanov) Upravleniye  
geologii i okhrany nedr pri Sovete Ministrov Tadzhikskaya SSR  
(Administration of Geology and Protection of Mineral Resources  
of the Council of Ministers of the Tadzhik SSR)

Card 2/3

New Data Concerning Permian Deposits of Northern Pamir SOV/20-125-6-37/61

PRESENTED: December 9, 1958, by D. V. Nalivkin, Academician

SUBMITTED: December 2, 1958

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ROMAN'KO, Ye.F.; LEVEN, E.Ya.; TAIROV, E.Z.

New data on the stratigraphy of the Permian deposits of the northern  
Pamirs. Izv. Otd. geol.-khim. i tekhn. nauk AN Tadzh. SSR No.1:  
63-67 '61. (MIRA 14:9)

I. Upravleniye geologii i okhrany nedr pri Sovete Ministrov  
Tadzhikskoy SSR.  
(Pamirs--Geology, Stratigraphic)

L 18332-65 EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EPR/EWP(j)/T/EWP(b) Pg-4/Pq-4/Pr-4/  
Ps-4 W.W./RM/WH  
ACCESSION NR: AP5001263 S/0072/64/000/012/0010/0013

AUTHOR: Romanenkov, I. G. (Candidate of technical sciences); Abashidze, G. S.  
(Engineer)

TITLE: Effect of a concentration of aggressive media on the strength of glass  
fibers 15 B

SOURCE: Steklo i keramika, no. 12, 1964, 10-13

TOPIC TAGS: glass fiber, alkali glass fiber, alkali free glass fiber, glass reinforced plastic, glass acid resistance, glass alkali resistance

ABSTRACT: The effect of various concentrations (1—45%) of caustic soda and of sulfuric and nitric acids on the tensile strength of aluminoborosilicate (alkali-free) and sodium calcium silicate (alkali) glass fibers has been studied. The study is considered important because of the known effect of the concentration factor on certain physical properties of glass fibers which found a wide application in reinforced and laminated materials. Experiments were carried out with unspun yarn of alkali or alkali-free glass and with an alkali glass fabric. The glass fiber samples were kept in an aggressive medium for 240 hr at 18—22°C, then tested on a tensile-testing machine. Experimental data indicated that: 1) Caustic

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L 18332-65  
ACCESSION NR: AP5001263

soda in 5—10% solutions exerts the most destructive effect on both types of glass fibers; 2) The sulfuric or nitric acid in 5—10% solutions also decreases the tensile strength of both alkali and alkali-free glass fibers, although to a lesser extent than caustic soda; 3) In more highly concentrated acids (over 20%), the tensile strength of both types of glass fibers increases with concentration; however, the tensile strength of alkali-glass fibers decreases sharply in 40% sulfuric acid; 4) Depending on the nature of the binder (polyester or phenol type) rather than on the composition of the glass fibers, glass-fiber reinforced or laminated materials also display low chemical resistance in 5—10% caustic-soda solutions and somewhat decreasing acid resistance with increasing acid concentration. Orig. art. has: 5 figures and 1 table.

ASSOCIATION: TsNII stroitel'nykh konstruktsiy (TsNII of Structural Parts)

SUBMITTED: 00

ENCL: 00

SUB CODE: MT

NO REF SOV: 007

OTHER: 003

ATD PRESS: 3155

Card 2/2

S/191/62/000/009/004/012  
B101/B144

AUTHORS: L'vov, B. S., Panferov, K. V., Romanenkov, I. G.,  
Shpakovskaya, Ye. I.

TITLE: Changes in the physicomechanical properties of glass-reinforced  
polycster plastics due to water

PERIODICAL: Plasticheskiye massy, no. 9, 1962, 16 - 18

TEXT: Longer immersion in water had the following effect on the physico-mechanical properties of glass-reinforced plastics (GRP) which contained 35-40% NH-1 (PN-1) polyester resin as binder: (1) Reduction of tensile strength and bending strength depended on the type of glass filler. After 6 months' immersion in water, the tensile strength (in % of the initial value) for GRP with rope glass fabric was 62.5, with T-1 (T-1) plain weave glass fabric 68.0, with staple glass fiber 55.9; the bending strength dropped to 44.0, 66.5, and 35.1, respectively. (2) When T-1 glass fabric was treated with the organosilicon FBC-9 (GVS-9) preparation the tensile strength of GRP after 40 days' immersion in water dropped by only 7.6, the bending strength by 15.6%, while the corresponding values for GRP with

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B101/B144

Changes in the physicomechanical...

untreated glass fabric were 32.5 and 61.8. (3) Result of the comparison between PN-1 resin and BPF-1 (VFB-1) phenol formaldehyde resin as binder: After 6 months' immersion in water, the residual tensile strength was 83.4% for GRP from T-1 glass fabric and TH-1 (TN-1) resin, the residual binding strength 68.2%, the modulus of elasticity in tension 65.8%, the modulus of elasticity in bending 33.8%, while the corresponding values for VFB-1 resin are 85.2, 77.9, 81.0 and 73.7. (4) Effect of the thickness in the case of GRP from T-1 glass fabric and TN-1 resin, after 6 months' immersion in water: For 2.2, 5.0-5.2 and 10.2-10.8 mm thick GRP, the residual tensile strength was 68.0, 83.4 and 81.2%, the residual bending strength 66.5, 68.2 and 69.8%, the residual elasticity modulus in tension 63.7, 65.8 and 65.9%, and the residual elasticity modulus in bending 26.7, 33.8 and 57.4% of the respective original values. There are 1 figure and 3 tables.

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S/191/61/000/003/009/015  
B124/B203

AUTHOR: Romanenkov, I. G.

TITLE: Effect of storing in water on the anisotropy of strength and deformation properties of glass-reinforced plastics

PERIODICAL: Plasticheskiye massy, no. 3, 1961, 44-48

TEXT: The present paper gives results of experiments of the influence of storing in water on the anisotropy of strength and deformation properties (under stress by pull and bending) of glass-reinforced plastics. Specimens of seven industrial and experimental materials of Soviet-made structural glass-reinforced plastics on the basis of various binders and glass fillers were tested, i.e., among high-strength glass-reinforced plastics, glass Textolites with Butvar phenol (БФ-3 (BF-3) and БФБ-1 (VFB-1)) and polyester (ПН-1 (PN-1)) binders. Specimens from three experimental lots of glass-reinforced plastics on the basis of glass mats and phenol binders, as well as a glass-reinforced plastic of the Glakrezit type, were also tested. Binders used were the water-resistant varnish Р-21 (R-21) and phenol alcohols subjected to moisture. Two lots of glass-reinforced

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B124/B203

Effect of storing in water...

plastics were made by the method developed by I. P. Berkovich and A. R. Vitenberg, co-workers of the NIIPM, and one lot by the improved technology of the VNIIS. Glass-reinforced plastics of the Glakrezit type were developed by B. S. L'vov and Ye. M. Gromakovskiy, co-workers of the VNIISV; they consisted of alkaline glass mat and the phenolic binder K-6 (K-6) with 30% alabaster. The effect of moisture on the physico-chemical properties of glass-reinforced plastics was established in longitudinal, transverse, and diagonal direction; the effect of prolonged storing in water on the anisotropy of strength and elasticity of glass Textolites made of non-alkaline spun glass of brand T (T) was studied in the direction of the warp, of the filling, and under an angle of 45°; that of materials with glass mats made of drawn alkaline glass fiber ( $d \sim 21\mu$ ) with starch size (10-12%) oriented at an angle of 15° to the longitudinal axis was studied in the longitudinal and transverse direction, and under an angle of 15°. The effect of moisture on the physicomechanical properties of Glakrezit was studied in the longitudinal and transverse direction. Specimens for the tensile test were taken according to T0CT 4649-55 (GOST 4649-55), those for the bending tests according to GOST 4648-56. Table 1 shows the effect of storing in water on the

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Effect of storing in water...

anisotropy of strength properties, and Table 2 shows the same effect on the deformation properties of glass-reinforced plastics. P. Z. Li, Z. V. Mikhaylova, L. N. Sedov, and Ye. L. Kaganova (Ref.3: Plast.massy, no. 3 (1960)) are mentioned. There are 2 tables and 3 Soviet bloc references:

Снижение при		Наполнитель
①	②	
Марка стеклопластика	Связующее	
Стеклопластиколит КАСТ-В завода «Карбонит»	БФ-3 (38,0%)	Стеклоткань ④ марки Г стеклопластикан ④ марки Г
Стеклопластиколит Ленинградского завода сплошных пластиков	ФЭФБ-1 (38,9%)	Маты из тянутого щелочного стекло- волокна однозакой ориентации ④
Стеклопластик НИИГПМ (первая партия)	ДГН-1 (51,3%)	Феноло- спирты ④ (45,8%)
Стеклопластик ЦНИИСК (вторая партия)	Р-21 (68,7%)	Маты из тянутого щелочного стекло- волокна переменной ориентации ④
Стеклопластик НИИГПМ (третья партия)	K-6 (60%)	Стекломата ④ щелочного состава и по- рошкообразный на- полнитель алебастр
Глякомерт ВИНИСВ		

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Effect of storing in water... Б.24, Б.25						
Effect of storing in water... Б.24, Б.25						
Effect of storing in water... Б.24, Б.25						
№	Г	Вид напряжения в исходном состоянии	Г	Структурное напряжение	Г	в исходном состоянии
1.1	1.62	1.2	Растяжение	По основе	2912	
			Изгиб	По утку	1957	
				Под углом 45°	1283	
				По основе	2816	
				Под углом 45°	2750	
				По основе	2499	
				Под углом 45°	2606	
				По основе	2210	
				Под углом 45°	2109	
				По основе	2285	
				Под углом 45°	1620	
				Продольное	2048	
				Поперечное	330	
				Под углом 15°	1714	
				к продольному направлению	1128	
				Продольное		
				Под углом 45°	794	
				Продольное	1635	
				Поперечное	293	
				Под углом 15°	1228	
				к продольному направлению		
				Продольное	330	
				Поперечное	219	
				Продольное	662	
				Поперечное	426	

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B124/B203Таблица 1  
( $T_{2,62} \geq 1$ )

ВЫДЕРЖИВАНИЯ В ВОДЕ	ПРЕДАЯ ПРОЧНОСТИ, КГ/СМ <sup>2</sup>						2160
	24	72	240	480	960	2160	
<u>(3) После выдерживания в воде, часы</u>							
24	2652 (91.2)*	2705 (92.8)	2850 (99.3)	2677 (92.1)	2562 (88.0)	2510 (86.3)	
1751 (89.5)	1828 (93.3)	1719 (89.6)	1878 (96.0)	1599 (81.6)	1720 (87.9)	1599 (81.6)	
—	—	1029 (80.2)	968 (75.3)	943 (73.4)	930 (72.4)	930 (72.4)	
2470 (86.3)	2423 (86.3)	2260 (80.5)	2267 (73.8)	2070 (73.8)	1960 (69.7)	1960 (69.7)	
2333 (84.5)	2179 (75.8)	1955 (71.0)	1997 (72.4)	1923 (69.2)	1823 (66.2)	1823 (66.2)	
2000 (80.0)	1845 (73.8)	1694 (67.8)	1607 (64.2)	1629 (65.1)	1590 (63.7)	1590 (63.7)	
2390 (91.6)	2420 (92.7)	2256 (86.5)	2176 (83.5)	2096 (80.3)	2123 (81.7)	2123 (81.7)	
1885 (85.3)	1918 (86.7)	1697 (76.7)	1814 (82.1)	1880 (85.2)	1780 (80.5)	1780 (80.5)	
1677 (79.5)	1809 (85.8)	1716 (81.3)	1624 (77.0)	1677 (69.5)	1625 (77.0)	1625 (77.0)	
1640 (71.7)	—	926 (40.5)	1123 (49.1)	968 (42.3)	—	—	
919 (56.7)	—	627 (40.5)	763 (47.1)	668 (41.2)	—	—	
1848 (90.2)	1560 (76.2)	1300 (63.4)	1300 (63.4)	1179 (59.4)	1179 (57.4)	1179 (57.4)	
—	1545 (70.5)	1370 (55.1)	1299 (63.4)	1198 (59.4)	1198 (59.4)	1198 (59.4)	
—	—	233 (70.5)	182 (55.1)	209 (63.4)	196 (59.4)	196 (59.4)	
1100 (96.8)	1057 (93.7)	900 (79.7)	819 (72.0)	789 (70.0)	749 (66.5)	749 (66.5)	
659 (84.3)	579 (72.8)	533 (75.4)	581 (73.2)	579 (72.8)	583 (73.4)	583 (73.4)	
1564 (95.6)	1576 (96.3)	—	—	1410 (86.3)	1276 (78.0)	1350 (82.5)	
—	—	—	—	—	1054 (86.0)	927 (92.6)	
335 (101.5)	—	—	—	—	339 (102.7)	328 (99.4)	
222 (101.3)	206 (94.1)	—	—	—	201 (91.7)	196 (89.5)	
657 (99.0)	662 (100)	648 (98.0)	648 (98.0)	658 (99.2)	658 (99.2)	658 (99.2)	
—	393 (92.3)	393 (92.3)	391 (92.3)	395 (92.3)	421 (98.9)	421 (98.9)	

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Effect of storing in water...

Legend to Table 1: Decrease in tensile and bending strength of glass-reinforced plastics after storing in water. (1) Brand of glass-reinforced plastic, (2) binder, (3) filler, (4) volume weight, g/cm<sup>3</sup>, (5) thickness of specimen, mm, (6) type of test, (7) structural direction, (8) glass Textolite KACT (KAST) of the "Karbolit" plant, (9) glass Textolite KACT-B (KAST-V) of the "Karbolit" plant, (10) glass Textolite of the Leningradskiy zavod sloistykh plastikov (Leningrad Plant of Laminated Plastics), (11) glass-reinforced plastic of the NIIPM (first lot), (12) glass-reinforced plastic of the TsNIISK (second lot), (13) glass-reinforced plastic of the NIIPM (third lot), (14) Glakrezit of the VNIISV, (15) BF-3, (16) VFB-1, (17) PN-1, (18) phenol alcohols, (19) R-21, (20) K-6, (21) glass fabric of brand T, (22) mats of drawn alkaline glass fiber of equal orientation, (23) mats of drawn alkaline glass fiber of varying orientation, (24) glass mats of alkaline composition with powdery filler - alabaster, (25) tension, (26) bending, (27) warp, (28) filling, (29) angle of 45°, (30) longitudinal direction, (31) transverse direction, (32) 15° to the longitudinal direction, (33) strength limit, kg/cm<sup>2</sup>, (34) in initial state, (35) after storing in water, hr. Note: The ratio of the strength limit of specimens stored in water to that of control specimens is given between parentheses (in %).

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## Effect of storing in water....

Снижение модуля упругости стеклопластиков при растяжении и изгибе после выдерживания в воде

(12612)

① Марка стеклопластика	② Вид напряженного состояния	③ Структурное направление	④ Модуль упругости, кГ/см <sup>2</sup> ×10 <sup>3</sup>					
			⑤ в исходном состоянии	⑥ после выдерживания в воде, часы				
			240	384	480	960	2160	
Стеклотекстолит КАСТ ⑤	⑩ Растяжение	По основе ⑯	20,6	—	18,0 (87,3)	18,4 (89,3)	17,9 (86,9)	18,0 (87,3)
		По утку ⑯	15,0	—	12,5 (83,3)	11,2 (74,3)	10,25 (68,4)	11,3 (75,4)
		Под углом 45° ⑯	9,7	—	7,9 (81,5)	6,8 (70,2)	5,2 (53,7)	5,5 (56,7)
	⑪ Изгиб	По основе ⑯	15,5	8,35 (53,8)	—	8,55 (55,2)	8,5 (54,8)	8,0 (51,6)
		По утку ⑯	10,0	4,8 (48,0)	—	4,7 (47,0)	4,4 (44,0)	4,3 (43,0)
		Под углом 45° ⑯	9,6	3,2 (33,3)	—	2,85 (29,7)	2,9 (30,2)	2,8 (29,2)
	⑫ Растяжение	По основе ⑯	20,5	18,2 (88,4)	—	18,4 (89,8)	17,85 (87,0)	17,6 (85,8)
		По утку ⑯	11,8	10,1 (85,7)	—	8,7 (73,8)	8,3 (70,2)	8,0 (67,2)
		Под углом 45° ⑯	8,0	5,1 (63,7)	—	4,0 (50,0)	3,1 (39,8)	3,4 (42,5)
	⑬ Изгиб	По основе ⑯	16,0	13,8	—	—	12,4	13,1

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## Effect of storing in water...

Стеклотекстолит на связующем ПН-1	(7)	(1) Изгиб	По утку (17)	6,7 (86,3)	—	— (77,5)	7,5 (81,9)	— 4,4
			Под углом 45° (16)	5,6 (65,6)	— 3,6 (64,3)	3,5 (62,5)	4,3 (64,3)	— 3,1 (55,3)
Стеклопластик НИИПМ (первая партия)	(5)	(2) Растяжение (3) Изгиб	По основе (17)	11,5	—	— (41,7)	5,1 (44,3)	—
			Под углом 45° (16)	4,4	—	2,4 (53,3)	1,85 (42,0)	—
Стеклопластик ЦНИИСК (вторая партия)	(7)	(4) Изгиб	Продольное (11)	20,4	—	16,3 (79,8)	15,1 (74,0)	15,7 (77,0)
			Поперечное (17)	22,0	—	18,7 (85,0)	16,9 (81,3)	18,6 (84,6)
			Продольное (17)	14,8	8,3	— (56,1)	11,6 (78,3)	9,0 (60,7)
			Под углом 15° (17) к продольному направлению	11,0	7,2 (65,4)	— (70,7)	7,7 (59,5)	6,55 (59,5)
			Продольные (16)	10,3	6,45 (62,5)	— (60,2)	6,2 (59,2)	6,1 (59,2)
			Под углом 45° (16)	4,7	2,7 (57,4)	— (70,3)	3,3 (68,1)	2,8 (59,6)

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S/191/61/000/003/009/015

B124/B203

## Effect of storing in water...

Legend to Table 2: Decrease in the modulus of elasticity of glass-reinforced plastics under stress by pull and bending after storing in water.  
 (1) Brand of glass-reinforced plastic, (2) type of test, (3) structural direction, (4) elastic modulus, kg/cm<sup>2</sup> × 10<sup>4</sup>, (a) in initial state, (b) after storing in water, hr, (5) glass Textolite KAST, (6) glass Textolite KAST-V, (7) glass Textolite with PN-1 binder, (8) glass-reinforced plastic NIIPM (first lot), (9) glass-reinforced plastic TsNIISK (second lot), (10) glass-reinforced plastic NIIPM (third lot), (11) Glakrezit VNIISV, (12) tension, (13) bending, (14) warp, (15) filling, (16) 45°, (17) longitudinal direction, (18) transverse direction, (19) 15° to the longitudinal direction. Note: The ratio of the modulus of elasticity of specimens stored in water to that of control specimens is given in parentheses (in %).

Стеклопластик НИИПМ. (третья партия)	(15)	(13) Изгиб	Продольное (17)	12,2	8,8 (72,15)	—	9,0 (73,7)	8,75 (71,7)	—
			Поперечное (17)	3,7	3,0 (81,1)	—	2,7 (73,0)	3,1 (83,8)	2,9 (78,4)
			Под углом 15° (17) к продольному направлению	7,5	7,1 (94,7)	—	—	—	5,7 (76,0)
			Продольное (17)	5,4	4,7 (87,0)	—	4,3 (80,0)	4,1 (76,2)	—
Глакрезит ВНИИСВ	(11)	(14) Растяжение	Поперечное (17)	4,55	3,7 (81,3)	—	3,5 (76,8)	3,4 (74,7)	—
			Продольное (17)	5,3	4,6 (86,8)	—	—	3,7 (69,8)	4,35 (82,1)
			Поперечное (17)	4,45	3,9 (87,6)	—	3,9 (80,9)	3,2 (72,0)	3,4 (76,4)

Romankov, P.G.

K-1

USSR/Processes and Equipment for Chemical Industries  
Processes and Apparatus for Chemical Technology

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 14185

Author : Romankov P.G., Lepilin V.N., Nemet Ye.S.

Title : Adsorption in Suspension Layer

Orig Pub : Khim. nauka i prom-st', 1956, 1, No 3, 317-324

Abstract : By methods of theory of similarity a set of criteria was derived which define kinetics of process of sorption from flow of mixture during period of constant rate of sorption (prior to passage) and period of dropping rate of sorption (after passage). To determine nature of functional correlation between criteria, experimentally investigated was adsorption, under dynamic conditions, of gaseous vapor from air (initial concentration  $C_0 = 4-30$  mg/liter). Experiments were conducted with activated carbon of grades BAU, AG, AR with particle diameter 0.5-3.5 mm in columns 32-125 mm diameter and initial height of layer

Card 1/2

- 22 -

ROMANOVA, A.G., kandidat biologicheskikh nauk.

Effect of high sodium chloride concentrations on fungi of the  
genus Penicillium. Nauch. biul. Len. un. no.33:52-55 '55.  
(MLBA 10:4)

1. Biologicheskiy institut Leningradskogo gosudarstvennogo uni-  
versiteta.

(PENICILLIUM) (SODIUM CHLORIDE)

ROMANKOVA, A.G.

Proteolytic abilities of species of *Penicillium*. A. G.  
Romankova, N. L. Muttison, and A. P. Sokol'skaya,  
*Vestnik Leningrad. Univ.*, No. 11, No. 15, Ser. Biol., No. 3,  
130-8(1950). — High proteolytic ability was found in *Peni-*  
*cillium roqueforti* as well as *P. aromatum*. Cheese pro-  
duced by the latter was comparable to that produced by *P.*  
*roqueforti*. G. M. Kosolapoff

3

USSR.

✓ The decomposition of fat by *Penicillium* species. A. G. Romanova. *Vestnik Leningrad. Univ.* 9, No. 4, Ser. Biol., *Zoolog.*, No. 2, 50-61 (1954).—The species of the group Aspergillaceae possess high lipolytic powers. Certain strains of *P. roqueforti* and *P. camemberti* possess especially high lipolytic properties. H. S. Levine

ROMAKHOV, A. A.

USSR.

Some data form a complete study of lead intoxication.  
B. A. Atchabarov, A. T. Aldanazarov, V. S. Nikulicheva, A.  
A. Romakov, and Sh. S. Sabdenova. *Vestnik Akad.*  
*Nauk Rzsr S.S.R.* 11, No. 6 (Whole No. 123), 89-94  
(1955).—A survey of the current information on Pb poisoning  
is followed by a brief account of new work. In Pb  
poisoning there is observed arterial hypotension and venous  
hypertension. Generally, Pb poisoning leads to slowing of  
hippuric acid synthesis and increase of bilirubin, as well as a  
pos. test in a few cases for urobilin in the blood. Usually,  
the nervous system shows disturbances before the circulatory  
system. Treatment with folic acid and Pentoxyli  
(used in some forms of anemia) gave favorable preliminary  
results. G. M. Kovalenoff

USSR / Pharmacology, Toxicology. Hemopoietic Drugs.

V

Abs Jour: Ref Zhur-Biol., No 9, 1958, 42408.

Author : Romanko, T. A.

Inst : Not Given.

Title : Parenteral Administration of Fercoven in the Treatment of Hypochromic Anemias of Various Etiologies.

Orig Pub: Klinich. meditsina, 1957, 35, No 1, 57-63.

**Abstract:** Fercoven (I) was administered to 34 patients with hypochromic anemia of various etiologies (post hemorrhagic, gastrogenic, late chlorosis). I contains 20 mg of Fe in 1 ml, and also saccharose and cobalt gluconate. I was given daily, parenterally in doses of 5 ml in combination with 20 ml of a 40% solution of glucose. The course of treatment consisted of 17 injections. The therapeutic effect manifested itself in a marked increase of

Card 1/2

ROMANENKOV, I.G.

Changes in physical and mechanical properties of glass plastics  
under the action of various corrosive media. Plast.massy no.8:  
38-43 '61. (MIRA 14:7)

(Glass reinforced plastics)

ROMANESCU, D.

(3)

SURNAME, Given Names

Country: Rumania

Academic Degrees: -not given-

Affiliation: -not given-

Source: Bucharest, Comunicarile Academiei Republicii Populare Romine,

Vol XI, No 12, 1961, pp 1515-1520.

Data: "Magnetometric Data Concerning the Genesis of Thermomineral Waters  
at Baile-Herculane."

Authors:

PAPIU, V. Corvin

ROMANESCU, D.

IONESCU, Fl.

ROMANIY, Ye.V.

Use of waste heat for heating the working solution for the  
vacuum-carbonate sulfur removal system. Prom. energ. 15 no.7:  
13-14 Jl '60. (MIRA 15:1)

(Coke-oven gas)  
(Hydrogen sulfide)

ROMANKEVICH, V.N.; SIDYAKIN, V.G.

Inconstancy of the electrical parameters of samples of selenium with  
an addition of chlorine in dependence on storage time. Izv.vys.ucheb.  
zav.; fiz. no.1:130-133 '61. (MIRA 14:7)

1. Kiyevskiy politekhnicheskiy institut.  
(Selenium—Electrical properties)

STABNIKOV, Vsevolod Nikolayevich, prof.; POPOV, Vladimir Dmitriyevich,  
prof.; RED'KO, Fedor Akimovich, inzh.; ZHIGALOV, S.P., doktor  
tekhn.nauk, retsenzent, spetsred.; ROMANKOV, P.G., doktor tekhn.  
nauk, retsenzent; KHMEL'NITSKAYA, A.Z., red.; SOKOLOVA, I.A.,  
tekhn.red.

[Processes and equipment of food industries] Protsessy i apparaty  
pishchevykh proizvodstv. Moskva, Fishchepromizdat, 1959. 584 p.  
(MIRA 13:2)

(Food industry--Equipment and supplies)

"APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001445220003-0

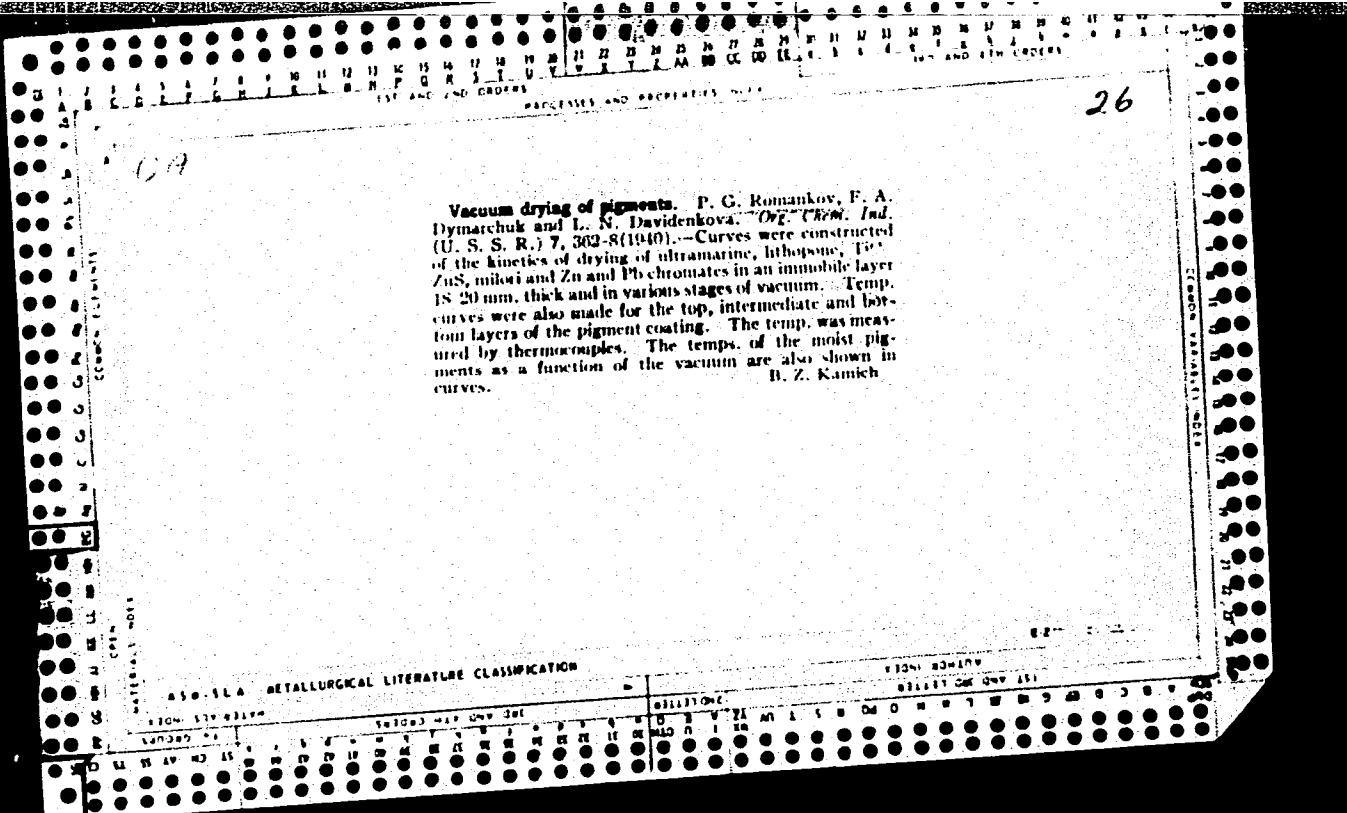
BUTIGAROVA, V.Z.; KOSAEKOV, P.G.; RASHKOVSKAYA, N.N.

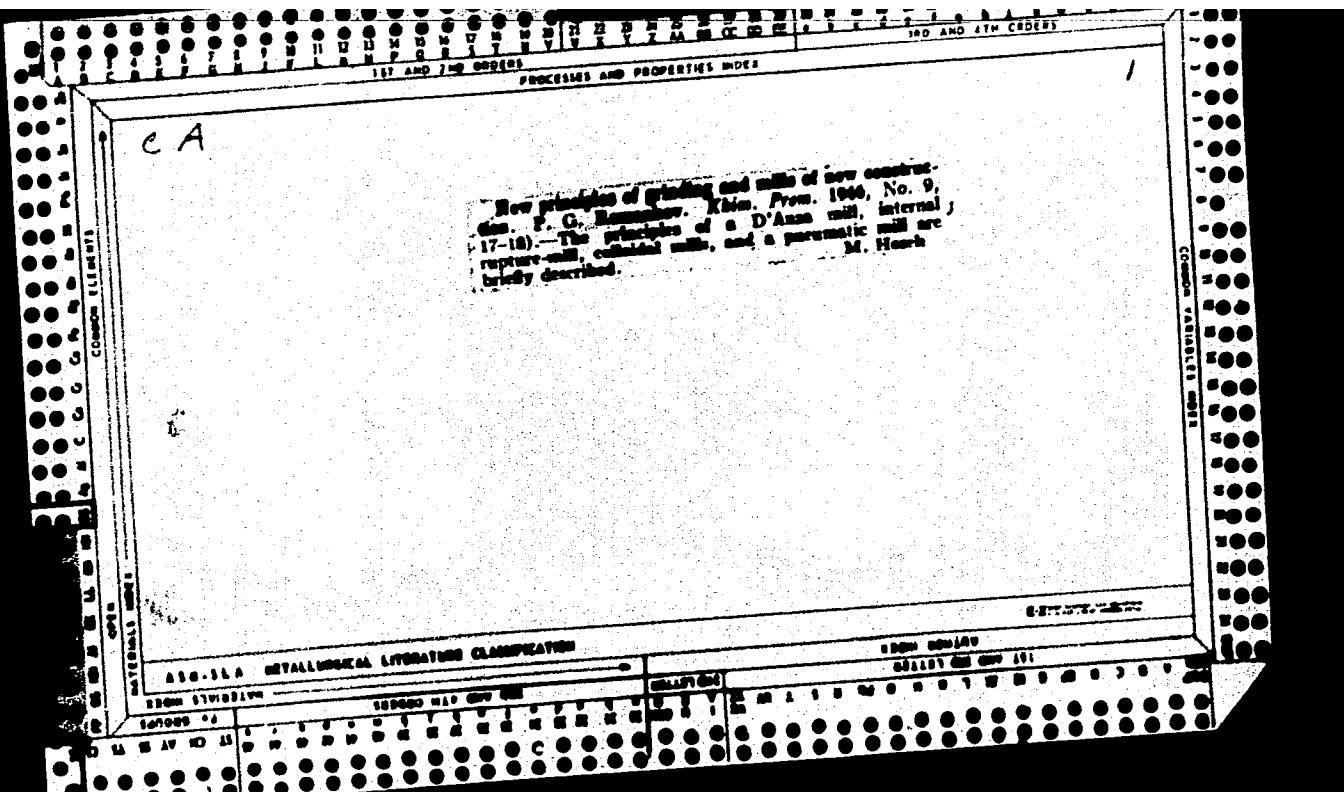
Some kinetic regularities of the process of spray-drying in a  
fluidized bed. Zhur. prikl. khim. 37 no.10:2223-2228 (1964).  
(VNIIT 17:11)

V. I. Lenin Novosibirskiy tekhnologicheskiy institut imeni Lensoveta.

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001445220003-0"





A new type of automatic device for signaling the presence of gases in air. P. G. Romanov and V. A. Grigor (Leningrad Technical Inst.). *Trudy Leningrad. Tekhnol. Inst. im. Lenina* 1960, No. 12, 175-4. — Air is passed through a pyrolytic chamber and then around a transparent "indicating film." Light passes through this film to a photocell; changes in the photocell reading activate a signaling device and (or) controls. The device responds within 2 min. to 0.014 mg./l. of Br and within 15-30 sec. to 5-60 mg./l. of EtCl. Cyrus Feldman.

ROMANKOV, P. G., jt. ed.

Pavlov, Konstantin Feofanovich, 1895-1944, ed.

Studies on general chemical engineering Moskva, Gos. nauchno-tekhn. izd-vo khim. lit-ry, 1947. 578 p. (54-38738)

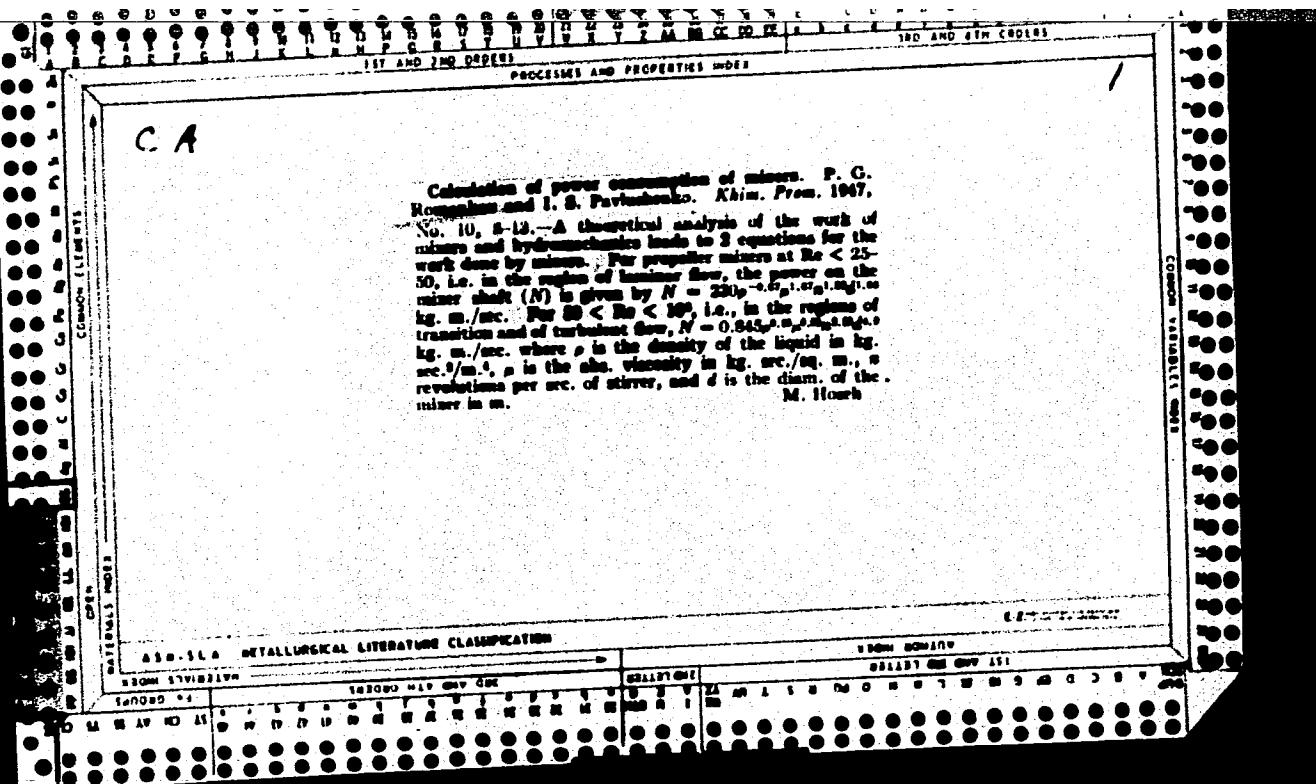
1. Chemical engineering. I. Romankov, P. G., jt. ed.

TP155.P34

ROMANKOV, P.G., dotsent, kandidat tekhnicheskikh nauk

New filter and centrifuge designs. Khim.prom.no.1:16-19 Ja'47.  
(MIRA 8:12)

1. Leningradskiy Tekhnologicheskiy institut imeni Lensoveta  
(Filters and filtration) (Centrifuges)



ROMANKOV, P.G., dotsent kandidat tehnicheskikh nauk; PAVLUSHENKO, I.S.,  
kandidat khimicheskikh nauk

Calculating the power consumption of mixers. Khim.prom.no.10:292-  
297 O'47. (MLRA8:12)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta  
(Mixing machinery)

ROMANKOV, P.G., and YEVSTROPYEV, K.S.

"Review of the scientific work of the Leningrad graduates." Vestnik Vysshey Shkoly.  
Vol/ 12, no 4, pp 43, 1954.

SO: D-81919, 25 Aug 1954.

PAVLOV, K.F.; ROMANKOV, P.G., professor; NOSKOV, A.A.; KUROCHKINA,  
M.I., redaktor; EMLIKH, Ye.Ya., tekhnicheskiy redaktor.

[Examples and problems for a course on processes and apparatus  
of chemical engineering] Primery i zadachi po kursu protsessov  
i apparatov khimicheskoi tekhnologii. 3-e izd., dop. i perer.  
Pod obshchey red. P.G. Romankova, Leningrad, Gos. nauchno-tekhn.  
izd-vo khim. lit-ry, 1955. 471 p. (MLRA 8:8)  
(Chemical engineering--Problems, exercises, etc.)

ROMANKOV, P.G.

The laws of air classification of solids in straight-through separators. P. G. Romankov and P. A. Yablouskii. *Khim. Prom.* 1950, 282-95. General expressions were obtained by theoretical analysis of the straight-through classifier (separator) with rotating blades. These expressions connect the principal factors characterizing sepn. processes. Criterion expressions were derived for the extn. coeff. of the fine fraction and for the Galilei centrifugal criterion as a measure of the mol. friction forces in relation to the centrifugal forces in the air stream, at which the required amt. of the residue is retained on the control screen. The G. criterion depends on the properties of the sepd. material. The theoretical results were tested on an exptl. app. which included a straight-through separator with 2 rows of rotating impact blades (24 blades, 8.5 mm. high) in a row. The inside diam. of the cylinder was 144 mm.; the rotor diam. 88 mm. The app. is shown diagrammatically. Three powd. products, sand, feldspar, and rouge, were used to test the equations; and the results confirmed the theoretical assumptions. The extn. coeff. was found to depend solely on the initial fine-fraction concn., and the screen residue on the ratio of the coarse and fine fractions in the material.

W. M. Sternberg

Romankov, P. G.

Chem

Adsorption on a weighed adsorbent. P. G. Romankov,  
V. N. Lepilin, and B. C. Nemet. *Khim. Nauka i Prom.*  
1, 317-24(1956).—Vapors of  $C_4H_6$ , EtCl, Me<sub>2</sub>CO, EtOH,  
and MeOH, mixed with air in concns. of 4-30 mg./l., were  
passed through a weighed bed of adsorbent (activated car-  
bons and silica gel) at 1-3 l./sq. cm./min. Curves and

equations given show the effect of these variables on ad-  
sorption. Shilov's equation (S., et al., *C.A.* 24, 788) has  
been corrected. Malcolm Anderson

3

DM

ROMANKOV, P.G.; TAGANOV, N.I.

"Gas cooling in scrubbers". N.N.Egorov. Reviewed by P.G.Romankov,  
N.I.Taganov. Zhur.prikl.khim. 29 no.2:319-320 F '56. (MLRA 9:6)  
(Scrubber (Chemical technology)) (Egorov, N.N.)

ROMANKOV, P.G.; LEPILIN, V.N.

Certain problems in the adsorption dynamics in a suspended layer of the  
adsorbent. Zhur. prikl. khim. 29 no.4:548-553 Ap '56. (MLRA 9:11)  
(Adsorption)

Romankov, P. G.

*Chem* ✓ The dynamics of adsorption in a fluidized layer of ad-  
sorbent / I. P. G. Romankov and V. N. Lepilin. 2  
App. Chem. U.S.S.R. 29, 599-604(1956)(English transla-  
tion).—See C.A. 50, 142771. B.M.R.

PM

ROMANKOV, P.G., professor, redaktor; KUROCHKINA, M.I., redaktor;  
ERLIKH, Ye.Ya., tekhnicheskij redaktor.

[Guide to practical laboratory work in the operation and with the equipment used in chemical engineering] Rukovodstvo k prakticheskim zaniatiiam v laboratorii protsessov i apparatov khimicheskoi tekhnologii. Leningrad, Gos.nauchno-tekhn.izd-vo khim.lit-ry, 1957. 202 p.  
(Chemical engineering--Equipment and supplies)

Romankov, P.G.

AUTHORS: Romankov, P. G., Nozdrovskiy, A. S., 64-8-8/19  
Sil'man, A. I., Rashkovskaya, N. B.,  
Berezovskaya, Z. A.

TITLE: Separation of Finely-dispersed, Hard-to-separate Suspensions in  
Precipitating-type Centrifuges

(Razdeleniye tonkodispersnykh plokh  
fil'truyushchikhsya suspensiy na tsentrifugakh  
osaditel'nogo tipa).

PERIODICAL: Khimicheskaya Promyshlennost', 1957, Nr 8, pp. 32-38  
(USSR)

ABSTRACT: Here the results are given of the proving of some types of separation centrifuges in operation with suspensions of the azodyes, i. e. of the direct black 3 and of the acid blue black, as well as with suspensions of the iron- and cobalt hydroxides. Investigated were:  
1) yeast separators. The experiments showed that these cannot be used for a continuous separation of the suspensions from azodyes in order to obtain a paste-like sediment.  
2) Centrifuge with removal of the precipitation by means of a knife. The experiments showed that this can be of certain interest since inspite of a semicontinuity of the process a

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Separation of Finely-dispersed, Hard-to-separate Suspensions in 64-8-8/19  
Precipitating-type Centrifuges

high mechanization degree of the same is obtained and an automatation of the discharge of the liquid and solid phase is possible during the operation. This centrifuge can be used only for a rough separation of the azodye suspensions.

3) The "OCH"--separator with a precipitation discharge by centrifugal force. The experiments showed that this separator is apt for the production of a dye of normal strength. The output of the same from the suspension was satisfactory. The disadvantage of the separator: it is not quite apt for the working of suspensions with high mineral salt content (more than 20%). The experiments carried out for the separation of not salted-out suspensions showed that such one can be carried out with this separator. The dyes of some types (e. g. the direct brown KX) can be separated more easily from the not salted-out suspensions than from the salted-out ones. As a rule, the concentration of the dye from the not salted-out suspensions is higher than from normal suspensions, even if the humidity content of the paste is higher before drying in the first case.

4) Separation centrifuge with a spiral discharge of the precipitation. The experiments showed that inspite of a

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Separation of Finely-dispersed, Hard-to-separate Suspensions  
in Precipitating-type Centrifuges

64-8-8/19

velocity up to 6300 U/min (separation factor 2900) no discharge of the precipitation took place. According to the reconstruction of the sample the centrifuge worked normally and the discharge took place continuously. The output amounted to from 20 up to 70 liters/min. The value of the separation factor amounted in the case of the 4 types given here to: 4600, 2100, 7200 and 4000, 1150. It was shown that in the separation of fine-disperse systems, as it is the case with the azodye suspensions the existence of separating plates is indispensable. These plates exist in the separation centrifuge with spiral discharge. This type is interesting for the industry. The construction was made by A. S. Nozdrovskiy. The present paper was carried out with the aid of following persons, or works resp.: B. A. Ikonnikov and I. T. Shkuta of the chemical works of Derbenev; testing industry enrichment factory Zhilevsk; NIIprodmash; M. V. Sizov from the chemical works of Derbenev.

There are 6 figures, 5 tables.

Card 3/4

Separation of Finely-dispersed, Hard-to-separate Suspensions  
in Precipitating-type Centrifuges

64-8-8/19

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ROMANKOV, P.G.; NOZDROVSKIY, A.S.; SIL'MAN, A.I.; RASHKOVSKAYA, N.B.;  
BEREZOVSKAYA, Z.A.

Separation of finely dispersed, difficultly filterable suspensions  
in centrifuges of the sedimentation type. Khim. prom. no. 8:480-  
486 D '57. (MIRA 11:2)

(Colloids) (Centrifuges)

SOV/124-58-8-8996

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 98 (USSR)

AUTHORS: Romankov, P.G., Lepilin, V.N., Nemet, Ye. S.

TITLE: Some Aspects of the Aerodynamics of a Suspended Layer Under Conditions Obtaining in Narrow Conduits (Nekotoryye voprosy aerodinamiki vzveshennogo sloya v usloviyah uzkikh trub)

PERIODICAL: Tr. Leningr. tekhnol. in-ta im. Lensoveta, 1957, Nr 39, pp 28-33

ABSTRACT: Glass conduits 32, 49, and 52 mm in diameter are used to investigate the process of formation of a suspended layer. The suspended layer here consists of irregularly shaped particles of low mechanical strength. Particle diameters varied from 0.5 to 3.5 mm, the initial height of the layer from 50 to 500 mm, and the densities from 0.482 to 1.08 g/cm<sup>3</sup>. Air is blown through the layer. The authors show that prior to formation of a pseudofluidized layer the resistance to a flow increases with increasing flow velocity. In the velocity range delimited, at the low end, by the velocity at which the particles just begin to be lifted into suspension and, at the high end, by the velocity at which all of them have passed into suspension, the resistance exerted by the conduit decreases somewhat, but beyond

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SOV/124-58-8-8996

## Some Aspects of the Aerodynamics of a Suspended Layer (cont.)

that velocity at which all the particles have passed into suspension it becomes constant, remaining equal to the weight of the suspended layer. On the basis of an analysis of their experimental data the authors evolve a formula for determining the head losses in this range of flow velocities

$$\Delta p = 1.02 \frac{G}{S},$$

wherein  $\Delta p$  is the head loss in the layer, G the weight of the layer, and S the cross-sectional area of the conduit. The fact that the numerical coefficient is not equal to unity is attributed by the authors to energy losses occasioned by the overcoming of friction. When a certain critical velocity is reached, the granular substance of the particles starts to be eroded and carried off---which produces a sharp drop in the resistance. A detailed description is given of the peculiarities of the motion of the suspended material. In this connection, it is found that the particles travel through the layer in a chaotic fashion and that, as reported by other investigators, too, the layer pulsates and funnels form within it. Bibliography: 9 references.

Ye. M. Minskiy

Card 2/2

5(4)

AUTHOR:

Romankov, P. G.

SOV/153-58-3-27/30

TITLE:

Approximate Equations of the Kinetics of the Desorption Process  
(Priblizhennyye uravneniya kinetiki protsessa desorbtssi)

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i  
khimicheskaya tekhnologiya, 1958, Nr 3, pp 160-163 (USSR)

ABSTRACT:

The desorption processes in solid absorbents by means of superheated steam or a liquid solvent are very complex; their strict mathematical description is a very difficult problem. Therefore in technical practice the approximate solution of the problems connected with the determination of the process velocity and duration as well as of the dimensions of the desorption apparatus are interesting. The process velocity is in a general form similar to the drying process and can be graphically represented (Figs 1,2) in the coordinate system "desorption velocity - time" and "desorption velocity - content of the substance to be desorbed in the sorbent". These graphical dependencies are found on the basis of the experimental curves: "Content of the substance to be desorbed in the sorbent - time". In considering the curve of the desorption

Card 1/3

SOV/153-58-3-27/30

## Approximate Equations of the Kinetics of the Desorption Process

kinetics (Fig 2) it must not be forgotten that the process in the most general case consists of two periods: 1) The constant desorption velocity; this period is determined by the velocity of the external diffusion. 2) The period of the decreasing diffusion velocity dependent on the velocity of the internal diffusion. Among the equations mentioned (1) - (13), (2), (8), and (9) are similar to those by Shervud for the drying of moist materials, however, the equation (4a) is similar to that by M. V. Tovbin and Mrs. A. D. Grinberg (Zhurn.fiz.khimii XXVIII, Nr 10, p 1758, 1954). Also the equation (13) is for the duration of the desorption process (during the period of the decreasing velocity) identical with the Shervud equation for the drying process (2nd period), as well as with the Tovbin-Grinberg equation (period of internal diffusion). It may be concluded from this that the investigation of the kinetics of the desorption process from the viewpoint of the theory drying makes some generalizations possible which might be useful for the development of the mass-transfer theory. The direction of further research work is outlined. There are 2 figures.

Card 2/3